

Stein Stephen

From: John Becker [REDACTED]
Sent: Wednesday, April 22, 2020 3:17 PM
To: Stein Stephen
Subject: RE: Requested Material

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Steve, All of these topics are covered in both Initial and Recurrent training. Recurrent training is done annually. Recurrent training consists of 2 hours of training doing the maneuvers in the aircraft plus the check ride. The 8410 shows the Recurrent check ride required by 14 CFR 135.293. The training is documented on the TR-8 form, that was all provided with Scott's complete training records. Recurrent training also includes AVSTAR training that take between 15 and 18 hours to complete. You have those records as well.

From: Stein Stephen [mailto:[REDACTED]]
Sent: Wednesday, April 22, 2020 3:06 PM
To: John Becker
Subject: RE: Requested Material

Hi John –

Thank you for furnishing this information.

Is this training covered during just the initial or recurrent training as well? And if not, what is covered during the recurrent as far as confined space and pinnacle/ridgeline ops...etc during? And when does this recurrent training take place?

Stephen

From: John Becker <[REDACTED]>
Sent: Thursday, April 16, 2020 12:26 PM
To: Stein Stephen <[REDACTED]>
Subject: Requested Material

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Steve,

Attached is the requested documentation you requested.

It is important to note that all of our pilots come to us, at a minimum, as commercially rated pilots proficient in these maneuvers and certified to competency by the FAA in Rotorcraft. Additionally, Papillon requires a minimum of 1000 hours PIC helicopter prior to employment (TOPS standards). All pilots are instrument rated and the majority of our pilots are also Certified Flight Instructors and Certified Flight Instructor Instrument. That said Papillon trains and evaluates pilots to maneuver standards listed in section E of our training manual and outlined with reference below. Additionally, maneuvers are outlined in the Helicopter Flying Handbook and FAA guidance for Commercial Practical Test Standards. Appendix A1 lists the training material used and those documents are also listed below.

Training Documents

Operations Manual, Aircraft Flight Manual, FAR/AIM, Advisory Circular Aviation Weather, Advisory Circular Aviation Weather Services, Rotorcraft Flying Handbook, Instrument Flying Handbook

Maneuver Standards:

Approaches E-8

Pinnacle/Rooftop Operations E-23

Confined Area / Steep Approaches/Max Performance Take off E-20

Cross wind Operations E-10

High Altitude Take Off e-11

Loss of lift at altitude E-16

Training Material Excerpts

Attached Helicopter Flying Handbook/Commercial Pilot Practical Test Standards

In order to assist the company flight instructors when instructing New Hire pilots, the company has an Initial Flight Training Flow. This provides guidance for the content of each training flight, see attached. These training flights typically last between 1.0 and 1.3 HOBBS time. Typically Papillon Line Pilots receive 6 to 8 hours of instruction prior to qualification. FAA requires minimum of 4 hours including the evaluation flight.

When considering mountain flying, or in our case more appropriately, high altitude operations, a new pilot who has been instructing based at a location at elevation (Provo UT, Scottsdale AZ, Bend OR), will clearly have more experience than an instructor building flight time in Florida. Consequently, our training program is flexible to account for the variances in experience, yet still in accordance with the above references.

Aircraft qualification and route evaluations are all conducted by FAA approved Check Pilots.

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Stein Stephen

From: John Becker <[REDACTED]>
Sent: Thursday, April 16, 2020 10:49 AM
To: Stein Stephen
Subject: RE: Response for weather data

[CAUTION] This email originated from outside of the organization. Do not click any links or open attachments unless you recognize the sender and know the content is safe.

Steve,

It is important to note that all of our pilots come to us as commercially rated pilots proficient in these maneuvers and certified to competency by the FAA in Rotorcraft. Additionally Papillon requires a min of 1000 hours PIC helicopter Prior to employment. All pilots are instrument rated and the majority of our pilots are certified flight instructors. That said Papillon trains and evaluates pilots to maneuver standards listed in section E of our training manual and outlined with reference below. Additionally maneuvers are outlined in the Helicopter flying handbook and FAA guidance for commercial practical test standards.

Additionally Appendix A1 lists the training material used and those documents are also listed below.

Training Documents

Operations Manual, Aircraft Flight Manual, Far/AIM, Advisory Circular Aviation Weather, Advisory Circular Aviation Weather Services, Rotorcraft Flying Handbook, Instrument Flying Handbook

Additionally maneuvers are outlined in the Helicopter flying handbook and FAA guidance for commercial practical test standards. Section Three page 3 Pilot Qualifications and Recent Experience A 3 states that the "Tests and Checks required by the Company Training Manual"

From: Stein Stephen [mailto:[REDACTED]]
Sent: Thursday, April 16, 2020 9:14 AM
To: John Becker
Subject: RE: Response for weather data

John,

This is great information, thank you for the prompt reply and for clarifying Section D.

I'd like to understand exactly how pilots were trained in the sections below and what tools this involved (reference materials, textbooks, internal powerpoints...etc) prior to the accident. Additionally, how much flight training are students required to have in these areas before they are signed off?

4. **Page D-6.301: Flight Training PIC Helicopter EC130**

G: Approaches – normal, Obstacle clearance, High Altitude, Elevated landing site, Rejected landing (Go Around)

J: Unprepared Site Operations – Confined areas, Pinnacles, Ridgelines

Flight Training

1. **Page E-11: High Altitude Take Off**
2. **Page E-20: Confined Area Operations – Steep Approach, Max Performance Take Off**
3. **Page E-23: Pinnacle Operations**

From: John Becker <[REDACTED]>

Sent: Thursday, April 16, 2020 8:39 AM

To: Stein Stephen [REDACTED]

Subject: RE: Response for weather data

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Steve,

The following sections of the training manual address mountain flying, specifically the effects of high altitude/density altitude and off-airfield operations. It is taught and evaluated in both initial and recurrent training.

Ground Training

Supplementing the curriculum within the company Training Manual, all pilots undergo initial and recurrent computer based training using the AVSTAR system. (You should have the AVSTAR syllabus; we submitted it during the initial investigation). Among the subjects covered is Principles of Flight for Helicopters which incorporates the effects of high altitude, temperature, high density Altitude Unprepared Site Operations – Confined areas, Pinnacles, Ridgelines. Approaches – normal, Obstacle clearance, High Altitude, Elevated landing site, Rejected landing (Go Around)

1. **Page D-2,101: Basic Indoctrination and Initial Equipment Training. Pilot Specific C: Aircraft performance**

Definitions

Effects of temperature and altitude

Power Check procedures

Rate of Climb

Operations and Allowable Relative wind

IGE and OGE Hover Ceilings and charts

2. Page D-4.300: Aircraft Ground training EC130 B4 Initial. E: Performance Characteristics during all Flight Regimes

Use of charts, tables and any other related materials including the RFM

Normal, Abnormal and Emergency Procedure Problems

Meteorological and Weight Limiting Performance Factors

Inoperative Equipment Performance Limiting Factors

Special Operational Conditions (High altitude airports and Confined Areas)

3. Page D-4.304: Aircraft Systems Integration. B: Flight Planning

Performance Limitations – meteorological, weight, MEL Items

Required fuel loads

Weather planning

4. Page D-6.301: Flight Training PIC Helicopter EC130

G: Approaches – normal, Obstacle clearance, High Altitude, Elevated landing site, Rejected landing (Go Around)

J: Unprepared Site Operations – Confined areas, Pinnacles, Ridgelines

Flight Training

1. Page E-11: High Altitude Take Off
2. Page E-20: Confined Area Operations – Steep Approach, Max Performance Take Off
3. Page E-23: Pinnacle Operations

To answer to your follow up questions.

I have included the reference you mention along with several others, I think that answers your question.

Your second question shows that you might be misunderstanding the manual. Section D-6.300 refers to Flight Training for the EC130. At the beginning of the section for the EC130, it lists:

Instructional delivery method: Instruction/Demonstration/Practice

In essence, the maneuvers are reviewed prior to the flight, demonstrated and practiced during the flight.

Training Aids: Stationary aircraft.

If the Instructor needs to use an aircraft on the ground to highlight certain points of the upcoming training event, then it's available. For example, we might use this to emphasize the size of the aircraft to help the pilot understand the 'footprint' of the aircraft once on the ground, helping to ensure clearance from ground obstructions. This does not imply that we train off airfield confined areas in a stationary aircraft, normally all such maneuvers are flown many times.

Changes to training since the accident.

Papillon has made many significant changes to operations since the accident, I sent you a list of the changes previously that you should have. The biggest change was the retrofit of all our fuel cells to crash resistant cells in all of our Airbus aircraft. Specific to mountain flying and adverse wind conditions we have implemented the following.

Training Manual Page E-16: Flight Training Maneuvers – Loss of Lift at Altitude (Settling with Power/Vortex Ring State)

Currently the content of this instruction has not changed however, following guidance from the FAA 8900, this maneuver and recovery method was oral both during training and evaluation leading up to the accident. Since the accident, vortex ring state and recovery is now thoroughly briefed, reviewed and practiced in flight for all Initial and Recurrent flight training events and evaluations. Additionally we are in revision to the training manual so we can also include the Vuichard maneuver for initial and recurrent training and evaluation. Airbus published safety information notice No 3463-s-00 on 2/4/2020 giving operators guidance on training recommendations for Vortex Ring State this guidance includes the Vuichard maneuver. As you are aware I have stated that Airbus has been neglecting the issue of tail rotor performance in certain wind conditions in both their training material and their flight manual. I am glad to see that it is now being addressed and hope that there is an update to their Training and operators manual soon.

From: Stein Stephen [mailto: [REDACTED]]
Sent: Wednesday, April 15, 2020 11:26 AM
To: John Becker
Subject: RE: Response for weather data

John,

More questions for you to fill our already busy work at home day.

What was Papillon's training program at the time of the accident with regards to mountain, pinnacle/ridgeline, and terrain flight operations and what is the current training program?

Thanks,

Stephen

From: John Becker < [REDACTED] >
Sent: Wednesday, April 15, 2020 8:05 AM
To: Stein Stephen < [REDACTED] >
Subject: RE: Response for weather data

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Steve, Here is the process for briefing pilots of the current and forecasted weather. As I stated earlier Pilots additionally have the weather available to them at the departure gate and they are instructed to check both current and forecasted conditions prior to the flight.

1. Lead Pilots refer to NWS approved sources daily to compile the Daily Safety Briefing using the following principle weather reports:

Local current and forecast conditions (METARs and TAFs)

Area synopsis

Area forecast

SIGMET/Convective SIGMET and relevant AIRMET data

2. This is then summarized and added to the briefing sheet for the pilots to consult throughout the day.
3. If pilots have questions or concerns during their period of duty, they know to refer to the Lead Pilot for the latest updates either from NWS sources, our own Canyon weather station, company PIREPs and even other operators and their PIREPs.
4. If adverse conditions are forecast later in the day, managers are advised early in the day so that preemptive action can be taken to:

Ensure safe operations within company weather limits by canceling later flights

Help minimize delays and disruption to passenger schedules

It should be emphasized that Boulder City managers are constantly looking at least 4 hours ahead each day regarding conditions since passenger pickups for Boulder City flights are typically 2 hours in advance of departure time for another flight of typically 1.5 hours. If conditions are expected to deteriorate within that time frame, decisions are made in advance to cancel passenger pickups and thus inconvenience customers being brought all the way from their hotels downtown to Boulder, only to have their flight canceled.

On the day of the event, weather forecasts and reported conditions supported the continued operation given that conditions were forecast to deteriorate, but much later than the last flight was to be clear of the Canyon. Other operators also were still in operation at the time of the event and as forecasted, winds increased at the expected time later that evening.

From: Stein Stephen [mailto: [REDACTED]]
Sent: Monday, April 13, 2020 12:59 PM
To: John Becker
Subject: RE: Response for weather data

Thanks for this. The group chairs don't normally distribute their field notes to everyone, but I do have a copy now.

I do have the weather briefing sheet for the day of the accident, but probably not what you had pulled up on aviationweather.gov. Did you have any policies governing what the lead pilot would look for or was it mainly for severe weather (like t-storms) OR anything that exceeded the winds in the GOM? And what would they do with that information?

Stephen

From: John Becker [REDACTED]
Sent: Friday, April 10, 2020 3:15 PM
To: Stein Stephen [REDACTED]
Subject: Response for weather data

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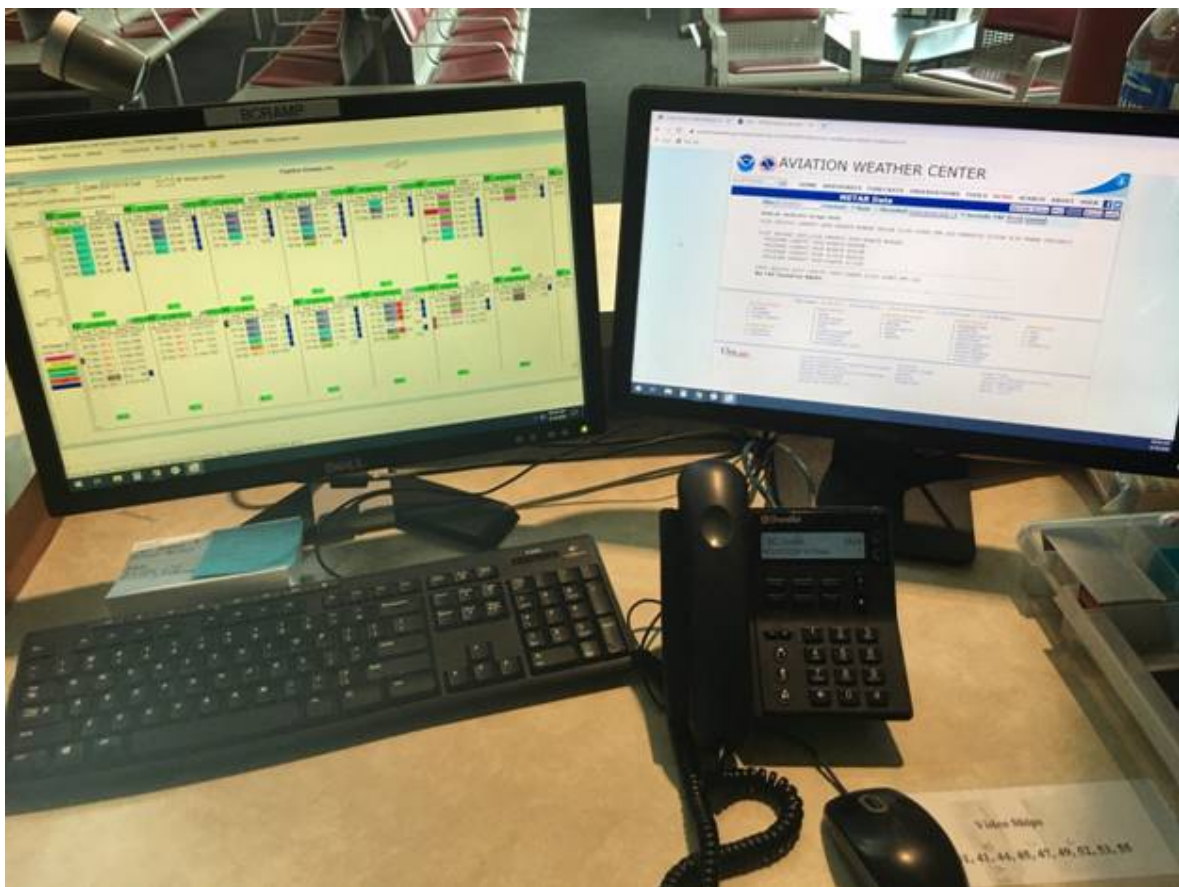
Steve,

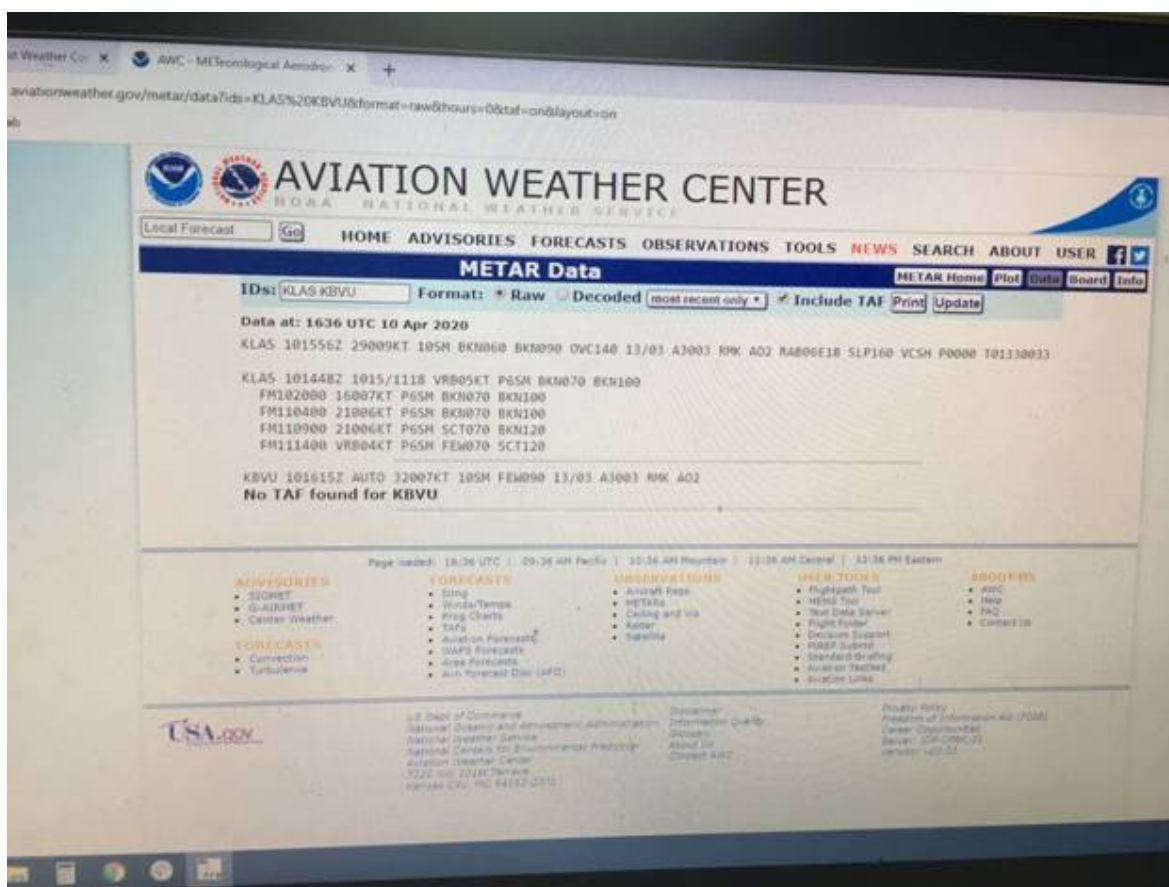
Here are the pictures of the computer screens at Departure Gate 2. The pilots are trained to review current and forecasted weather as well as to print and review their manifest prior to each flight.

The left screen depicts Alpro. We pulled up the screen for February 10th, 2018.

The right screen shows METAR and TAF data for both KLAS and KBVU. The website is aviationweather.gov, a NOAA/NWS product. The screen is constantly updated with current METAR and the latest TAF data.

On another tab for the same screen, is the AWOS METAR data for GCW. The pilots simply tab from one screen to the next for the data they need.





I hope this helps. I am attempting to get the data that was available for the pilots on the day of the accident, you might have that already.

I think that it might also be helpful to note a couple things. Papillon has a lead pilot that monitors the daily operations including PIREP's and aviation weather data throughout the day. Additionally we have flight followers in our control tower doing the same thing and reporting that information to the lead pilot desk. Both stations have weather information available to them similar to departure gate 2 seen above. The lead pilot desk also has our weather station data located on the canyon floor available to them real time to assist in Go/No Go decisions.

Here is a photo of the Pilot Station in the Terminal Lobby from page 4 of the OPS/HP Field Notes. When I was with Katherine I explained the process of reviewing weather and printing and reviewing the manifest prior to flight.

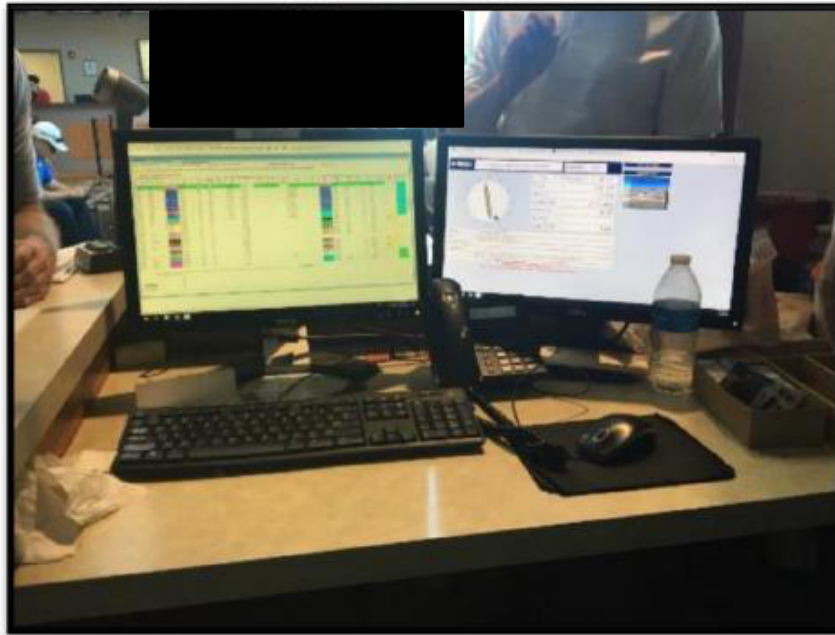


Photo x. Pilot station in Terminal lobby.

Additionally there is a comprehensive weather discussion in the Ops/HP Field notes, including these photos from the lead pilots' area.

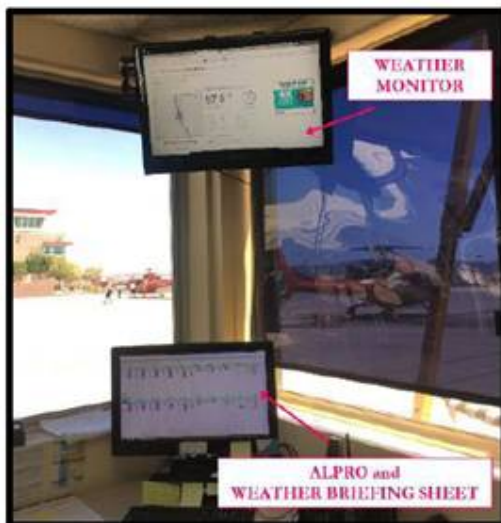


Photo x: Monitors for Lead Pilots.

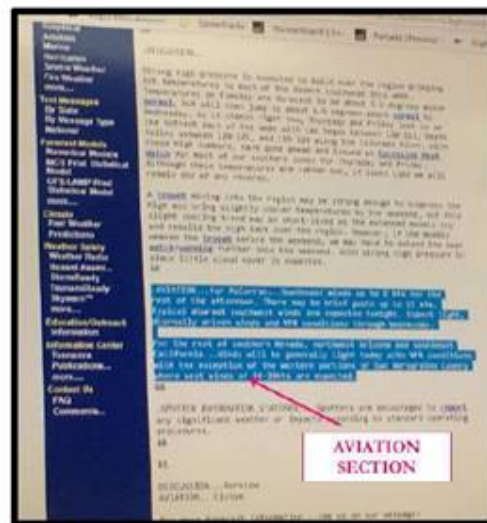
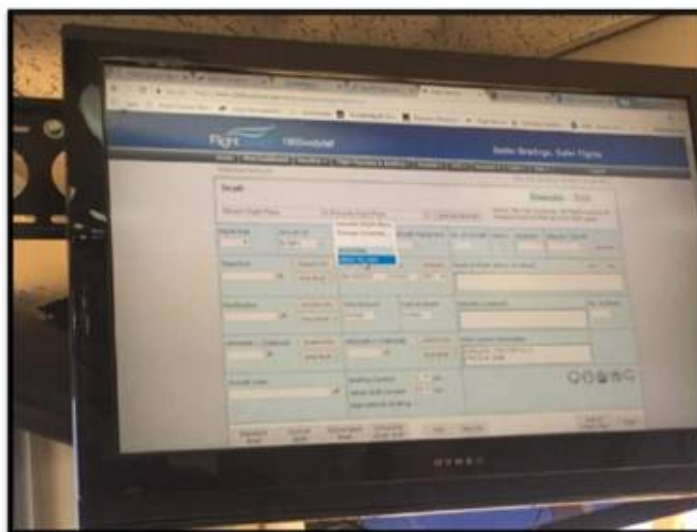


Photo x: Area Forecast Website.



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